CLAIMS

WHAT IS CLAIMED IS

1. A method of reengineering a configuration of fin-stabilized discarding sabot with tracer projectile for firing from a given barreled weapon of given caliber (C), from an initial configuration to an improved configuration, wherein:

when fired from said weapon with a first muzzle velocity of between 1300 and 1700 m/s the projectile achieves a steady state spin rate of less than 200 rps in said initial configuration, the method comprising:

reengineering of the configuration of the fin blades of said projectile so that when fired from said weapon with a second muzzle velocity within 5% of said first muzzle velocity, the projectile achieves a steady state spin rate (SSSR) within lower and upper limits respectively defined by the lines:

(SSSR-340)/(C-25)=(99-SSSR)/(120-C); and

(SSSR-420)/(C-25)=(122-SSSR)/(120-C);

wherein SSSR is in rps and C is in mm.

2. The method of claim 1 wherein:

the reengineering provides an increase in SSSR from the initial configuration to the improved configuration of at least 10 percent.

3. The method of claim 1 wherein:

the reengineering provides a substantial increase in tracer visibility from the initial configuration to the improved configuration so that:

with at least 90 percent reliability the improved configuration provides infrared visibility from a firing weapon along a majority of a flight path from a muzzle of the

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weapon to a target at least one kilometer away under conditions where the initial configuration provides such visibility with less than 50 percent reliability.

4. The method of claim 1 wherein:

the reengineering provides a substantial increase in tracer visibility from the initial configuration to the improved configuration so that:

with at least 90 percent reliability the improved configuration provides infrared visibility from a firing weapon along at least 90 percent of a flight path from a muzzle of the weapon to a target at least one kilometer away whereas the initial configuration provides such visibility with less than 10 percent reliability.

5. The method of claim 1 wherein:

the reengineering provides a substantial increase in tracer visibility from the initial configuration to the improved configuration;

the reengineering comprises reconfiguring each of the fin blades to have single tip portion angularly deflected relative to a remainder of such fin; and

steady state spin rate and an intervening peak spin rate higher than said muzzle spin rate.

6. The method of claim 1 wherein:

the reengineering comprises reconfiguring each of the fin blades to have single tip portion angularly deflected relative to a remainder of such blade; and

the reengineering comprises similarly reconfiguring an untracered projectile to maintain similar flight characteristics to the improved configuration of said fin-stabilized discarding sabot with tracer projectile.

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